



# 12G-AM

The 12G-AM is an 8-channel AES audio embedder/disembedder Mini-Converter with support for 12G-SDI input and output up to 4K/UltraHD. Fiber models offer single link fiber I/O including LC and ST options.

**\$1129 US MSRP**

AES Audio disembedding is always functional, providing four AES outputs. Audio embedding is user selectable, on a channel pair basis, to either pass 12G-SDI input audio or to embed input AES audio from the breakout cable.

The 12G-AM automatically detects and configures the input video standard.

<https://www.aja.com/products/12g-am>

## Video Formats

- (4K) 4096x2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (UltraHD) 3840x2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048x1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920x1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920x1080i 50, 59.94, 60
- (HD) 1280x720p 50, 59.94, 60\*
- (SD) 625i 50
- (SD) 525i 59.94
- RGB and YCbCr, 4:4:4/4:2:2, 10-bit

**Note:** Raster and frame rate dependent, please see 12G-AM Video Formats in Documents and Manual.

## Video Input Digital

- 1x 12G-SDI BNC, SMPTE 259/292/424/2081/2082
  - Single Link SD/HD/2K/UltraHD/4K
  - Single Link 3G-SDI Level A or B-DL, SMPTE 425

## Fiber Input

(12G-AM-R, 12G-AM-TR)

- 1x 12G-SDI Fiber LC connector, SMPTE 297/259/292/424/2081/2082
  - Wavelength: Rx 1260 nm (min), 1620 nm (max)
  - Optical Sensitivity: -10 dBm (min 12 Gbps), -14 dBm (min 3 Gbps)
  - Overload Power: -2 dBm (min)

## Fiber Input

(12G-AM-R-ST)

- 1x 12G-SDI Fiber ST connector, SMPTE 297/259/292/424/2081/2082
  - Wavelength: Rx 1260 nm (min), 1620 nm (max)
  - Optical Sensitivity: -10 dBm (min 12 Gbps), -14 dBm (min 3 Gbps)
  - Overload Power: -2 dBm (min)

## Video Output Digital

- 1x 12G-SDI BNC, SMPTE 259/292/424/2081/2082
  - Single Link SD/HD/2K/UltraHD/4K
  - Single Link 3G-SDI Level A or B-DL, SMPTE 425

## Fiber Output

(12G-AM-T, 12G-AM-TR)

- 1x 12G-SDI Fiber LC connector, SMPTE 297/259/292/424/2081/2082
  - Nominal Wavelength: Tx 1260 nm (min), 1310 nm (typ), 1360 nm (max)
  - Optical Power: -5 dBm (min), 0.5 dBm (max)
  - Extinction Ratio: 5.4 dB (min)

## Fiber Output

(12G-AM-T-ST)

- 1x 12G-SDI Fiber ST connector, SMPTE 297/259/292/424/2081/2082
  - Nominal Wavelength: Tx 1260 nm (min), 1310 nm (typ), 1360 nm (max)
  - Optical Power: -5 dBm (min), 2 dBm (max)
  - Extinction Ratio: 3.4 dB (min)

## Cable Equalization

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(Belden 1694A coax)

- 12 Gbps, 65m
- 6 Gbps, 125m
- 3 Gbps, 190m
- 1.5 Gbps, 200m
- 270 Mbps, 405m

## Video Path Delay

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Video Out is a delayed, reclocked version of Video In, at same frame rate, etc. Video Out is undefined when no input.

- Video Latency, time measured between video input and video output connector:
  - 12G = 3.2  $\mu$ sec
  - 6G = 3.2  $\mu$ sec
  - 3G level A = 3.2  $\mu$ sec
  - 3G level B-DL = 6.3  $\mu$ sec
  - HD (1.5 Gb) = 6.3  $\mu$ sec
  - SD (270 Mb) = 17.2  $\mu$ sec

## Audio Inputs and Outputs

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- AES PCM audio, 1x 25 pin D female connector on converter, 8-channels in, 8-channels out, selectable in pairs
- Breakout cable provided with 1x 25 pin D male connector:
  - 4x XLR female input breakout connectors (AES3 110 ohm)
  - 4x XLR male output breakout connectors (AES3 110 ohm)

## Audio Data Formats

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- AES3-2003

## Embedded Audio

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- SMPTE 272M (SD): 20-bit, 48 kHz synchronous
- SMPTE 299M (3G/HD): 24-bit, 48 kHz synchronous
- Incoming embedded audio can be passed, removed, or overridden
- Up to 16-channels supported

**Note:** 2048x1080p/PsF 29.97 and 30 formats support a maximum of 8-channels embedded audio.

## Embed Path Audio Latency

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(Time measured between audio input and video output connector):

- 1500  $\mu$ sec (SRC ON)
- 400  $\mu$ sec (SRC OFF)

## Disembed Path Audio Latency

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(Time measured between video input and audio output connector):

- 210  $\mu$ sec

## User Interface

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- External DIP switch
- USB port used with Mini-Config software application to configure the device via PC/Mac

## Size (w x d x h)

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- 5.8" x 3.1" x 1.0" (147.32 x 78.74 x 25.4 mm)

## Weight

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- 0.6 lb (0.3 kg)

## Power

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- +5-16VDC, 10 watts, power supply required, included with purchase

## Environment

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- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)